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ANNUAL REPORT

OF

THE MINES DIVISION

OF THE

Department of Mines and Minerals

OF THE

PROVINCE OF ALBERTA

1971

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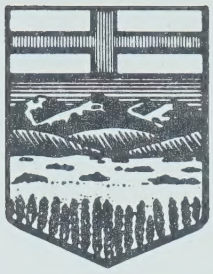

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Edmonton, Alberta,
January 31st, 1972.

TO THE HONOURABLE WILLIAM D. DICKIE, Q.C.,
Minister of Mines and Minerals.

Sir:

I have the honour to submit the Annual Report of the Mines Division of the Department of Mines and Minerals for the year ending December 31st, 1971.

Respectfully submitted,
PHILIP MELSON
Director of Mines.

ANNUAL REPORT OF THE MINES DIVISION FOR THE YEAR ENDING DECEMBER 31st, 1971

In this report tonnages are quoted in tons of 2,000 pounds.

The output of coal from the mines in the province was 8,931,468 tons, with a valuation of $41,837,437. This shows an increase of 2,147,557 tons, with an increase of $15,126,949, compared with the previous year.

The disposition of coal for 1971 and comparison with the previous year follows:

	1971 (Tons)	1970 (Tons)
Sold for consumption in Alberta	4,279,029	3,606,168
Sold for consumption in British Columbia	65,183	66,245
Sold for consumption in Saskatchewan	32,951	186,972
Sold for consumption in Manitoba	90,478	69,387
Sold for consumption in Ontario	33,182	28,143
Sold for consumption elsewhere	93,511	...
Sold to the United States	5,926	6,126
Sold to Japan	3,339,404	2,394,255
Sold to railway companies	1,021	1,629
Put to stock	990,783	424,986

The above tonnages include lifted from stock and waste heaps which are not included in the total output.

The Alberta consumption includes coal used under colliery boilers.

There were 5 underground mines and 22 strip mines making a total of 27 mines producing coal during the year. The mines employed 2,068 persons who worked 476,300 shifts. This shows a decrease of 1 mine, an increase of 311 persons, and an increase of 101,201 shifts, compared with the previous year. There were 22 strip mines employing 581 persons who worked 152,575 shifts and produced 6,230,016 tons. This shows an increase of 69 persons, an increase of 45,725 shifts, and an increase of 1,494,739 tons from stripping operations, compared with the previous year.

The number of mines using electrical power during the year was 25. The following table shows the comparison of purchased electrical power in K.W. hrs. by mines for the past five years.

1967	35,270,464
1968	34,507,138
1969	40,784,932
1970	67,554,165
1971	79,634,598

The total horsepower of electrical motors in use was 71,187 h.p., an increase of 10,975 h.p., in comparison with 1970. The following tables show a breakdown of horsepower in use, both in sub-surface mining operations and strip mining operations.

SUBSURFACE OPERATIONS

Above Ground		Below Ground	
Duty	H.P.	Duty	H.P.
Haulage	4,140	Haulage	8,884
Ventilation	2,710	Ventilation	1,031
Air Compressing	3,026	Pumping	458
Preparation Plants	12,677	Mechanical Mining	9,663
Miscellaneous	1,898	Miscellaneous	1,883
Total	24,451	Total	21,919

STRIP MINING OPERATIONS

Duty	H.P.
Preparation Plants	8,763
Compressors	128
Pumping	441
Drilling	628
Electric Shovels & Draglines	13,489
Miscellaneous	1,368
Total	24,817

The following figures show the number of certain types of electrical equipment used underground during the past five years.

	1967	1968	1969	1970	1971
Cutting Machines	36	28	24	17	10
Battery Vehicles	16	16	18	23	24
Trolley Locomotives	2	2	2	4	4
Conveyors	32	28	38	64	45
Drills	38	37	30	36	27
Continuous Miners	5	6	14	19	25
Shuttle Cars	5	7	11	25	33
Face Loaders	10	10	13	17	18

There were 11 diesel powered locomotives and vehicles in operation underground.

Twenty quarries produced 35,662,830 tons of shale, clay, limestone, building stone, bentonite and oil sands, an increase of 3,390,404 tons compared with the previous year.

The total horsepower of electrical motors used in quarries was 24,802 h.p. This is the same as the 1970 total.

Two hundred and two inspections were made under the terms of The Coal Mines Regulation Act, and 43 under The Quarries Regulation Act.

In addition to the above, 45 inspections were made at 29 abandoned mining locations. Remedial work was required and completed at 10 mines. Two inspections were made for the cancellation of mining leases.

All complaints made to the Division were investigated.

The total number of accidents in coal mines reported was 45. There was one fatal accident, the same as in the previous year. There was one accident reported in quarries.

Written examinations under The Coal Mines Regulation Act were held on May 4th, 5th and 6th at Edmonton, Calgary and Grande Cache with successful candidates as follows: 4 second class, 4 third class, 2 surveyors (underground mines), 7 first class mine electricians, 5 second class mine electricians, 10 foremen (strip mines), 2 surveyors (strip mines), and 3 blasters (strip mines).

Written examinations under The Quarries Regulation Act were held at Edmonton and Calgary on May 4th and 5th, with successful candidates as follows: 2 managers and 5 foremen.

Two blasters' certificates were issued to successful candidates on oral examination.

Seven examinations were held for miners' certificates and 183 certificates were issued to successful candidates. Fourteen substitute miners' certificates, 99 miners' provisional certificates and 407 miners' permits were granted, making a total of 703 certificates issued which is identical to the total issued in 1970.

Fifteen Mine Rescue certificates were issued. A provincial Mine Rescue competition was held at Grande Cache. Coleman Collieries Limited, the

winning team, went on to win the Fifth Canadian Mine Rescue Competition which was held at Edmonton in June.

There were three surface installation fires reported in 1971. The main transformer supplying No. 5 Mine of McIntyre Coal Mines Ltd., Grande Cache, was destroyed by fire and on September 15th, a heating in the dust collection system occurred. At The Canmore Mines, Limited, Canmore, a fire destroyed a switch panel in the powerhouse on June 30th.

Five dangerous occurrences during the year could have had serious results. These occurred at No. 2 Mine of McIntyre Coal Mines Ltd., Grande Cache, on April 1st, 2nd and 7th, and on July 25th and August 5th. Feeders of methane were ignited by the picks of the continuous miner striking cap-rock. These ignitions were not propagated due to sufficient ventilation at the working faces, and were quickly extinguished.

Two longwall faces were worked at McIntyre Coal Mines Ltd., during 1971. At No. 5 Mine, the face was stopped after 125 feet of advance, and at No. 2 Mine the face was discontinued after 215 feet of advance. The main problem appears to be the tendency of the soft coal at the working face to break away, thus leaving unsupported ground ahead of the supports and conveyor. Caving of the waste area was good, and the make of methane was negligible.

Four miner training courses held at Grande Cache have yielded 86 potential miners, and two supervisors courses have prepared ten trained examiners.

Two permits were granted for commencement of new mines, one issued in late 1970 and one in 1971. In both cases, no mining has been done.

Mine No. 2, operated by The Canmore Mines, Limited, Canmore, installed a raw coal storage system, comprising 2 two hundred ton bins feeding raw coal by conveyor through a rock tunnel to the preparation plant. They also obtained the following, one 6 unit classifier system, belt weigher scales, raw coal rotary breaker, and a 1¼ yd. Link-Belt backhoe. Installed underground was a 1,000 ft. monorail supply system and 10 slusher hoists.

Mine No. 1747, operated by Coleman Collieries Limited, Coleman, installed on the surface a new truck scale, a new washhouse at Racehorse portal and a 2,000 ton raw coal silo. Installed underground were the following: 4 Joy 6 CM continuous miners equipped with Bacharach methane monitors, 4 Joy 10 SC shuttle cars, 4 Joy 100 H.P. Compressors, 7 Bruce Peebles 400 KVA transformers, 3 belt conveyors, 9 permissible pumps, 1 Hunslet MT60 supply car and 6 M.S.A. Pager type telephones.

Mine No. 1765, operated by McIntyre Coal Mines Ltd., near Grande Cache, installed underground 2 Joy 10 CM continuous miners, 2 Stammler feeders, 3 Fletcher roof bolters, 4 Joy 10 SC shuttle cars, a 450 H.P. Canadian Blower and Forge fans and a Gas Machinery mine air heater, complete with Pyronics monitoring equipment.

Mine No. 1771, operated for McIntyre Coal Mines Ltd., obtained the following at the strip mine: 1 Caterpillar D6 dozer, 5 Caterpillar D9 dozers, 3 L700 front end loaders, a 988 loader, 2 drills, 12 Hayes 30 ton trucks, 2 road graders and an ammonium nitrate storage silo.

Mine No. 1768, operated by Cardinal River Coals Ltd., Luscar, obtained the following new equipment: 2 Wabco 100 ton trucks, 3 Caterpillar 660 dump trucks and a Hoffman 30 H.P. plant cleaner.

Mine No. 1757, operated by Alberta Coals Ltd., at Wabamun, purchased an 8 inch Monarch pump.

Mine No. 1769, operated by Calgary Power Ltd., near Seba Beach, purchased a new Atlas Copco B30 coal drill, mounted on a Case 480 tractor.

NUMBER OF MINES PRODUCING, OPENED AND ABANDONED
DURING THE YEAR ACCORDING TO AREAS AND KIND OF COAL

Director of Mines - P. Melson, Agriculture Building,
Edmonton 6, Alberta. Telephone 229-4421

Electrical Inspector of Mines - J.S. Watson,
Building, Edmonton 6, Alberta. Telephone 229-4425

Inspection District	Area	Area Number	Character of Coal	No. of mines producing during the year	No. of mines opened during the year	No. of mines abandoned during the year	Name and Address of District Inspectors of Mines
Calgary	Carbon	6	Sub-bituminous	1	...	...	J. J. Kubin,
	Cascade	7	Bituminous	1	...	...	906, John J. Bowlen Bldg.,
	Drumheller	14	Sub-bituminous	2	...	...	620 - 7th Ave. S.W.,
	Sheerness	38	Sub-bituminous	1	...	...	Calgary, Alberta.
							Tel. 268-8340
Edmonton	Ardley	1	Sub-bituminous	1	...	...	M. Aschacker,
	Camrose	5	Sub-bituminous	1	...	...	801 Agriculture Bldg.,
	Castor	8	Sub-bituminous	3	...	...	Edmonton 6, Alberta.
	Edmonton	15	Sub-bituminous	2			Tel. 229-4424
	Pembina	31	Sub-bituminous	4	...	...	
	Tofield	42	Sub-bituminous	1	...	...	
	Westlock	45	Sub-bituminous	2	...	...	
Hinton	Mountain Park	24	Bituminous	1	...	...	J. D. Shaw,
	Smoky River	10	Bituminous	2	1	...	201 Esquire Bldg.,
							P.O. Box 2896,
							Hinton, Alberta.
							Tel. 865-3161
Lethbridge	Brooks	3	Sub-bituminous	1	...	1	I. N. Potter,
	Crowsnest	12-13	Bituminous	3	...	...	Administration Bldg.,
	Taber	41	Sub-bituminous	1	...	...	909 - 3rd Ave. North
							Lethbridge, Alberta.
							Tel. 328-4471
	Total.....	..	.....	27	1	1	

PARTICULARS WITH REFERENCE TO THE COAL MINING INDUSTRY IN THE PROVINCE OF ALBERTA DURING THE YEAR ENDING DECEMBER 31, 1971.

SUMMARY OF STATISTICS

Number of tons of coal produced	8,931,468
Total valuation of coal produced	$ 41,837,437
Number of mines in operation	27
Number of mines opened	1
Number of mines abandoned	1

1 mine	or 03.7%	of the total operating produced	00.68% of the output
1 mine	or 03.7%	of the total operating produced	03.33% of the output
2 mines	or 07.4%	of the total operating produced	03.58% of the output
3 mines	or 11.1%	of the total operating produced	00.10% of the output
5 mines	or 18.5%	of the total operating produced	00.45% of the output
7 mines	or 25.9%	of the total operating produced	01.31% of the output
8 mines	or 29.7%	of the total operating produced	90.55% of the output

Average number of persons employed	2,068
Average number of persons employed in underground mining	1,487
Average number of persons employed in strip mining	581
Average number of days worked	230
Total number of manshifts	476,300
Number of separate accidents causing loss of life	1
Number of fatal accidents above ground	...
Number of fatal accidents below ground	1
Number of serious accidents above ground	5
Number of serious accidents below ground	17
Number of slight accidents above ground	5
Number of slight accidents below ground	17
Total purchased electric power (kilowatt hours)	79,634,598
Number of prosecutions instituted	...
Number of trade name certificates issued	2
Number of provisional first class certificates issued	3
Number of provisional second class certificates issued	15
Number of provisional third class certificates issued	41
Number of provisional mine surveyor certificates issued	1
Number of provisional strip mine managers' certificates issued	2
Number of provisional strip mine foremen's certificates issued	15
Number of provisional strip mine blasters' certificates issued	1
Number of provisional electricians' certificates issued	32
Number of provisional miners' certificates issued	99
Number of miners' permits issued	407
Number of miners' certificates issued	183
Number of first class certificates issued	...
Number of second class certificates issued	4
Number of third class certificates issued	4
Number of mine surveyors' certificates issued	2
Number of first class mine electricians' certificates issued	6
Number of second class mine electricians' certificates issued	4
Number of strip mine managers' certificates issued	...
Number of strip mine foremen's certificates issued	10
Number of strip mine blasters' certificates issued	3
Number of strip mine surveyors' certificates issued	2
Number of first class certificates issued up to Dec. 31/71	323
Number of second class certificates issued up to Dec. 31/71	633
Number of third class certificates issued up to Dec. 31/71	1,890
Number of mine surveyors' certificates issued up to Dec. 31/71	257
Number of first class mine electricians' certificates issued up to Dec. 31/71	193
Number of second class mine electricians' certificates issued up to Dec. 31/71	146
Number of strip mine managers' certificates issued up to Dec. 31/71	185
Number of strip mine foremen's certificates issued up to Dec. 31/71	281
Number of strip mine blasters' certificates issued up to Dec. 31/71	35
Number of strip mine surveyors' certificates issued up to Dec. 31/71	6
Number of miners' certificates issued up to Dec. 31/71	21,515

PARTICULARS WITH REFERENCE TO QUARRIES IN THE
PROVINCE OF ALBERTA DURING THE YEAR ENDING DECEMBER 31, 1971.

SUMMARY OF STATISTICS

Number of tons of limestone produced	1,449,037
Number of tons of bentonite produced	10,399
Number of tons of shale and clay produced	982,484
Number of tons of building stone produced	414
Number of tons of oil-sands produced	33,220,496
Number of quarries in operation	20
Number of quarries opened	1
Number of quarries abandoned	...
Number of persons employed	387
Average number of days worked	242
Total number of man-shifts	93,725
Number of accidents	1
Number of pounds of dynamite used	103,851
Number of pounds of ammonia nitrate used	4,422,327
Number of detonators used	6,670
Number of shots fired	8,422
Number of primers used	6,411
Number of missed fire shots	3
Amount of prima cord used (feet)	379,800
Number of provisional managers' certificates issued	2
Number of provisional foremen's certificates issued	9
Number of provisional blasters' certificates issued	1
Number of managers' certificates issued	2
Number of foremen's certificates issued	5
Number of blasters' certificates issued	2
Number of managers' certificates issued up to Dec. 31st, 1971	37
Number of foremen's certificates issued up to Dec. 31st, 1971	74
Number of blasters' certificates issued up to Dec. 31st, 1971	80

ANNUAL PRODUCTION AND VALUATION OF COAL FROM MINES
IN THE PROVINCE OF ALBERTA
For the Years 1952 to 1971 Inclusive

Year	Output Tons	Valuation Dollars
1952	7,194,472	$ 39,974,318
1953	5,917,423	32,158,435
1954	4,859,136	26,349,275
1955	4,456,578	23,486,399
1956	4,329,639	23,283,966
1957	3,155,354	17,287,229
1958	2,519,939	12,778,111
1959	2,549,517	12,892,747
1960	2,404,093	11,439,705
1961	2,027,826	10,471,217
1962	2,087,310	9,983,327
1963	2,289,943	9,866,962
1964	2,971,133	11,189,087
1965	3,413,928	12,172,001
1966	3,467,254	12,067,044
1967	3,601,559	12,506,450
1968	3,925,114	12,597,181
1969	4,426,060	13,483,048
1970	6,783,911	26,710,488
1971	8,931,468	41,837,437

PER CAPITA PRODUCTION OF MINES IN THE PROVINCE
For the Years 1952 to 1971 Inclusive

Year	Gross Tons of coal mined	Total average No. of men employed	Tons of coal mined per man employed
1952	7,194,472	6,936	1,037
1953	5,917,423	5,760	1,027
1954	4,859,136	4,719	1,030
1955	4,456,578	3,801	1,172
1956	4,329,639	3,443	1,258
1957	3,155,354	2,795	1,129
1958	2,519,939	2,021	1,247
1959	2,549,517	1,720	1,482
1960	2,404,093	1,729	1,390
1961	2,027,826	1,323	1,533
1962	2,087,310	1,281	1,629
1963	2,289,943	1,151	1,989
1964	2,971,133	1,188	2,501
1965	3,413,928	1,181	2,891
1966	3,467,254	1,146	3,026
1967	3,601,559	1,162	3,099
1968	3,925,114	1,103	3,559
1969	4,426,060	1,209	3,661
1970	6,783,911	1,654	4,101
1971	8,931,468	2,068	4,319

CLASSIFICATION OF OUTPUT IN TONS DURING THE YEARS 1952 to 1971 INCLUSIVE

Year	Bituminous	Sub-bituminous	Coal used in Coke Production	Tons of Briquettes Made	Tons of Coke Made
1952	4,378,622	2,815,850	3,474	661,862	574
1953	3,517,499	2,399,924	...	665,556	...
1954	2,402,185	2,456,951	...	635,501	...
1955	2,114,892	2,341,686	...	435,785	...
1956	2,064,723	2,264,916	...	525,202	...
1957	1,265,844	1,889,510	...	265,645	...
1958	834,256	1,685,683	...	128,512	...
1959	814,819	1,734,698	...	99,499	...
1960	863,517	1,540,576	* 2,352	44,111	* 1,216
1961	666,226	1,361,600	* 661	34,534	* 491
1962	590,139	1,497,171	...	28,631	* 40
1963	635,650	1,654,293	* 843	37,358	* 11,677
1964	866,221	2,104,912	* 6,412	38,230	* 19,971
1965	859,176	2,554,752	* 46,016	34,658	* 38,804
1966	879,569	2,587,685	* 28,824	27,904	* 11,387
1967	937,836	2,663,723	* 20,241	21,503	* 7,430
1968	948,480	2,976,634	* 1,658	7,236	* 1,261
1969	1,231,108	3,194,952	...	2,766	...
1970	2,863,705	3,920,206	...	...	...
1971	4,505,737	4,425,731	...	...	...

* Char

AMOUNT OF COAL SOLD IN TONS DURING THE YEARS 1952 to 1971 INCLUSIVE FOR CONSUMPTION IN:

Year	Railways	Alberta	B.C.	Sask.	Manitoba	Ontario	Quebec	U.S.A.	Japan	Total
1952.....	2,065,365	1,234,307	1,021,484	1,241,716	384,924	126,381	...	71,817	1,588	6,147,582
1953.....	1,625,783	1,045,482	859,385	1,034,594	274,758	73,117	...	47,119	...	4,960,238
1954.....	743,743	1,064,817	891,194	995,882	292,455	85,836	...	33,124	...	4,107,051
1955.....	431,639	1,080,379	932,764	893,377	293,719	90,727	...	32,941	...	3,755,546
1956.....	385,388	1,020,538	860,329	871,719	304,918	75,029	120	45,692	...	3,563,733
1957.....	152,693	876,395	672,527	680,297	247,480	68,379	165	46,079	40,745	2,784,760
1958.....	56,420	838,535	532,911	584,025	226,302	54,887	122	37,154	21,952	2,352,308
1959.....	39,122	874,622	437,118	549,663	239,503	52,828	80	33,455	124,719	2,351,110
1960.....	1,045	845,806	379,668	362,383	201,372	40,305	157	30,283	361,336	2,222,355
1961.....	51,128	791,631	321,909	232,848	159,744	35,466	115	18,066	343,720	1,954,627
1962.....	32,003	901,107	283,651	347,012	153,561	29,952	75	9,219	316,787	2,073,367
1963.....	16,001	1,073,606	262,433	343,634	131,471	29,309	118	5,583	410,558	2,272,713
1964.....	14,451	1,620,893	261,990	279,171	122,590	32,261	x 86	14,805	612,544	2,958,791
1965.....	10,798	1,928,684	276,608	388,796	130,861	31,733	85	14,123	614,801	3,396,489
1966.....	6,631	2,034,814	197,521	376,589	115,771	24,893	* 8	12,206	709,977	3,478,410
1967.....	3,960	2,019,036	166,668	503,396	92,934	21,956	...	9,857	773,505	3,591,312
1968.....	3,201	2,672,852	142,589	175,948	73,558	15,097	54	9,549	809,437	3,902,285
1969.....	2,967	2,991,312	143,783	71,480	67,479	13,430	349	10,651	891,769	4,193,220
1970.....	1,629	3,606,168	66,245	186,972	69,387	28,143	...	6,126	2,394,255	6,358,925
1971.....	1,021	4,279,029	65,183	32,951	90,478	33,182	360	5,926	3,339,404	7,940,685
							B 59,041			
							F 34,110			

x Includes 46 tons to N.W.T.
* Includes 8 tons to West Germany
B Includes 59,041 tons to Belgium
F Includes 34,110 tons to France

COAL PRODUCED BY YEARS FROM 1967 to 1971

BITUMINOUS COAL FIELD

Areas	1967	1968	1969	1970	1971
Group 1:					
Cascade.....	288,954	283,719	267,266	333,945	371,964
Group 2:					
Crowsnest.....	620,962	660,780	769,489	817,173	870,685
Mountain Park..	...	...	...	618,021	1,031,382
Smoky River....	24,835	1,265	193,522	1,094,379	2,231,706
Group 3:					
Coalspur.....	...	...	199	187	...
Lethbridge.....	3,085	2,716	632	...	...
Total.....	937,836	948,480	1,231,108	2,863,705	4,505,737

SUB-BITUMINOUS COAL FIELD

Group 4:					
Ardley.....	25,130	23,366	24,186	21,472	20,105
Brooks.....	5,160	4,946	4,856	3,515	3,316
Carbon.....	7,457	4,883	4,271	3,354	2,926
Champion.....	458	...	...	...	...
Drumheller.....	185,037	162,018	150,336	80,406	67,595
Edmonton.....	63,123	47,892	47,007	42,803	35,719
Pembina.....	1,196,637	1,945,467	2,135,158	2,533,587	3,353,363
Taber.....	9,929	4,713	3,926	3,457	2,557
Wetaskiwin.....	114	...	...	...	...
Group 5:					
Camrose.....	16,842	15,408	15,398	13,949	13,440
Castor.....	859,694	636,349	750,748	1,086,418	880,736
Redcliff.....	541	...	...	...	...
Sheerness.....	259,720	100,115	29,302	102,719	16,149
Tofield.....	12,026	9,629	8,616	9,312	9,380
Westlock.....	21,855	21,848	21,148	19,214	20,445
Total.....	2,663,723	2,976,634	3,194,952	3,920,206	4,425,731

HOW THE TOTAL TONNAGE OF BITUMINOUS COAL FROM THE PROVINCE WAS DISPOSED OF BY AREAS DURING 1971

Areas	Sold for Consumption in:								Total Disposition	Put to Stock	Lifted from Stock	Total Tonnage
	Sold to Railway Companies	Alberta	British Columbia	Belgium France Quebec	Manitoba	Ontario	United States	Japan				
Group 1:												
Cascade.....	86	478	13939	F 34110 Q 282 B 20090	70	8449	5809	222523	305836	121210	55082	371964
Group 2:												
				Q 78								
Crowsnest.....	...	959	...	B 38951	...	...	...	830840	870828	19394	19537	870685
Mountain Park..	...	202	...	...	40648	19497	55	970980	1031382	...	...	1031382
Smoky River....	...	...	...	...	...	...	...	1315061	1315061	2231706	1315061	2231706
Total.....	86	1639	13939	93511	40718	27946	5864	3339404	3523107	2372310	1389680	4505737

HOW THE TOTAL TONNAGE OF SUB-BITUMINOUS COAL FROM THE PROVINCE WAS DISPOSED OF BY AREAS DURING 1971

Areas	Sold for Consumption in:								Total Disposition	Put to Stock	Lifted from Stock	Total Tonnage
	Sold to Railway Companies	Alberta	British Columbia	Sask.	Manitoba	Ontario	Quebec	United States				
Group 4:												
Ardley.....	...	20105	...	...	...	...	...	...	20105	...	...	20105
Brooks.....	...	3316	...	...	...	...	...	...	3316	...	...	3316
Carbon.....	...	2926	...	...	...	...	...	...	2926	...	...	2926
Drumheller.....	154	24210	13806	15350	5047	813	...	62	59442	24791	16638	67595
Edmonton.....	...	35624	...	...	...	95	...	...	35719	...	...	35719
Pembina.....	...	3353363	...	...	...	...	...	...	3353363	...	...	3353363
Taber.....	...	2557	...	...	...	...	...	...	2557	...	...	2557
Group 5:												
Camrose.....	...	13440	...	...	...	...	...	...	13440	...	...	13440
Castor.....	629	780355	37438	17601	44713	...	...	...	880736	...	...	880736
Sheerness.....	152	11669	...	...	...	4328	...	...	16149	...	...	16149
Tofield.....	...	9380	...	...	...	...	...	...	9380	...	...	9380
Westlock.....	...	20445	...	...	...	...	...	...	20445	...	...	20445
Total.....	935	4277390	51244	32951	49760	5236	...	62	4417578	24791	16638	4425731

HOW THE TOTAL TONNAGE OF COAL FROM THE PROVINCE WAS DISPOSED OF BY MONTHS DURING 1971

Months	Sold for Consumption in:									Total Disposition	Put to Stock	Lifted from Stock	Total Tonnage
	Sold to Railway Companies	Alberta	British Columbia	Sask.	Manitoba	Ontario	Belgium France Quebec	United States	Japan				
January.....	296	416293	6075	5237	14968	4860	...	562	239961	688252	161064	104703	744613
February.....	84	392296	3512	3311	6236	1247	...	484	235307	642477	155711	52977	745211
March.....	41	358063	4342	932	2520	632	...	517	364499	731546	178832	173101	737277
April.....	...	334202	2894	196	864	383	...	426	297312	636277	148499	123011	661765
May.....	92	316621	2255	77	765	6742	...	570	217049	544171	175240	77140	642271
June.....	67	246341	3029	115	77	632	F 34110	763	301416	586550	175789	142710	619629
July.....	...	249297	1882	93	...	...	...	191	249350	500813	172158	105373	567598
August.....	...	291307	3851	...	159	14127	...	546	227417	537407	156863	62671	631599
September.....	128	362864	7278	2477	7379	1717	...	535	296216	678594	267055	127932	817717
October.....	97	386768	9327	8741	18492	1468	Q 142	499	217610	643144	306155	50292	899007
November.....	...	435263	11705	7722	20852	679	Q 140	274	290071	766706	288716	109746	945676
December.....	216	489714	9033	4050	18166	695	Q 78 B 59041	559	403196	984748	211019	276662	919105
Total.....	1021	4279029	65183	32951	90478	33182	93511	5926	3339404	7940685	2397101	1406318	8931468
% of Total Disposition:	.01	53.89	.82	.42	1.14	.42	1.18	.07	42.05				

HOW THE TOTAL TONNAGE OF BITUMINOUS COAL WAS DISPOSED OF BY MONTHS DURING 1971

Months	Sold for Consumption in:									Total Disposition	Put to Stock	Lifted from Stock	Total Tonnage
	Sold to Railway Companies	Alberta	British Columbia	Belgium	Manitoba	Ontario	France Quebec	United States	Japan				
January.....	...	200	1076	...	5933	407	...	562	239961	248139	160720	103281	305578
February.....	...	86	774	...	...	1160	...	484	235307	237811	155133	52127	340817
March.....	...	201	276	...	...	632	...	517	364499	366125	177890	172057	371958
April.....	...	54	1004	...	...	383	...	426	297312	299179	148064	122490	324753
May.....	...	25	1461	...	728	6742	...	570	217049	226575	169244	77140	318679
June.....	...	85	1238	...	...	632	F 34110	763	301416	338244	172723	142710	368257
July.....	...	120	589	...	...	...	...	191	249350	250250	172158	105373	317035
August.....	...	59	1143	...	...	14127	...	546	227417	243292	156863	62671	337484
September.....	...	211	1506	...	4453	1631	...	535	296216	304552	264737	126105	443184
October.....	29	223	979	...	8680	1326	Q 142	499	217610	229488	301857	46971	484374
November.....	...	227	1357	...	11128	341	Q 140	212	290071	303476	284149	102999	484626
December.....	57	148	2536	59041	9796	565	Q 78	559	403196	475976	208772	275756	408992
Total.....	86	1639	13939	59041	40718	27946	34470	5864	3339404	3523107	2372310	1389680	4505737
% of Total Disposition:	...	.04	.40	1.68	1.16	.79	.98	.16	94.79				

HOW THE TOTAL TONNAGE OF SUB-BITUMINOUS COAL WAS DISPOSED OF BY MONTHS DURING 1971

Months	Sold for Consumption in:									Total Disposition	Put to Stock	Lifted from Stock	Total Tonnage
	Sold to Railway Companies	Alberta	British Columbia	Sask.	Manitoba	Ontario	Quebec	United States	Japan				
January.....	296	416093	4999	5237	9035	4453	...	...	...	440113	344	1422	439035
February.....	84	392210	2738	3311	6236	87	...	...	...	404666	578	850	404394
March.....	41	357862	4066	932	2520	...	...	...	...	365421	942	1044	365319
April.....	...	334148	1890	196	864	...	...	...	...	337098	435	521	337012
May.....	92	316596	794	77	37	...	...	...	...	317596	5996	...	323592
June.....	67	246256	1791	115	77	...	...	...	...	248306	3066	...	251372
July.....	...	249177	1293	93	...	...	...	...	...	250563	...	...	250563
August.....	...	291248	2708	...	159	...	...	...	...	294115	...	...	294115
September.....	128	362653	5772	2477	2926	86	...	...	...	374042	2318	1827	374533
October.....	68	386545	8348	8741	9812	142	...	...	...	413656	4298	3321	414633
November.....	...	435036	10348	7722	9724	338	...	62	...	463230	4567	6747	461050
December.....	159	489566	6497	4050	8370	130	...	...	...	508772	2247	906	510113
Total.....	935	4277390	51244	32951	49760	5236	...	62	...	4417578	24791	16638	4425731
% of Total Disposition:	.01	96.83	1.16	.75	1.13	.12							

PER CAPITA PRODUCTION OF MINES BY AREAS

BITUMINOUS COAL FIELD

Area	Strip and Underground Mining					Strip Mining					Underground Mining				
	Gross tons of coal mined	Total average No. of men employed	Tons of coal mined per man employed	Total No. of man-shifts	Tons of coal mined per eight hour man-shift	Gross tons of coal mined	Total average No. of men employed	Tons of coal mined per man employed	Total No. of man-shifts	Tons of coal mined per eight hour man-shift	Gross tons of coal mined	Total average No. of men employed	Tons of coal mined per man employed	Total No. of man-shifts	Tons of coal mined per eight hour man-shift
Group 1:															
Cascade.....	371,964	276	1,348	64,019	5.81	129,150	25	5,166	5,838	22.12	242,814	251	967	58,181	4.17
Group 2:															
Crowsnest.....	870,685	546	1,595	131,122	6.64	320,157	33	9,702	11,121	28.79	550,528	513	1,073	120,001	4.59
Mountain Park.	1,031,382	179	5,762	52,482	19.65	1,031,382	179	5,762	52,482	19.65	...	...	...	...	...
Smoky River...	2,231,706	702	3,179	146,951	15.19	408,946	57	7,174	14,100	29.00	1,822,760	645	2,826	132,851	13.72
Total.....	4,505,737	1,703	2,646	394,574	11.42	1,889,635	294	6,427	83,541	22.62	2,616,102	1,409	1,857	311,033	8.41

PER CAPITA PRODUCTION OF MINES BY AREA

SUB-BITUMINOUS COAL FIELD

Group 4:															
Ardley.....	20,105	5	4,021	1,027	19.58	20,105	5	4,021	1,027	19.58	...	...	...	...	...
Brooks.....	3,316	4	829	905	3.66	3,316	4	829	905	3.66	...	...	...	...	...
Carbon.....	2,926	2	1,463	456	6.42	2,926	2	1,463	456	6.42	...	...	...	...	...
Drumheller...	67,595	59	1,146	8,628	7.83	6,541	2	3,270	539	12.14	61,054	57	1,071	8,089	7.55
Edmonton.....	35,719	25	1,429	5,567	6.42	11,423	4	2,856	964	11.85	24,296	21	1,157	4,603	5.28
Pembina.....	3,353,363	147	22,812	35,920	93.35	3,353,363	147	22,812	35,920	93.35	...	...	...	...	...
Taber.....	2,557	2	1,278	545	4.69	2,557	2	1,278	545	4.69	...	...	...	...	...
Group 5:															
Camrose.....	13,440	5	2,688	878	15.31	13,440	5	2,688	878	15.31	...	...	...	...	...
Castor.....	880,736	99	8,896	24,049	36.62	880,736	99	8,896	24,049	36.62	...	...	...	...	...
Sheerness....	16,149	7	2,307	1,644	9.82	16,149	7	2,307	1,644	9.82	...	...	...	...	...
Tofield.....	9,380	3	3,127	789	11.89	9,380	3	3,127	789	11.89	...	...	...	...	...
Westlock.....	20,445	7	2,921	1,318	15.51	20,445	7	2,921	1,318	15.51	...	...	...	...	...
Total.....	4,425,731	365	12,125	81,726	54.15	4,340,381	287	15,123	69,034	62.87	85,350	78	1,094	12,692	6.72

SUMMARY

Bituminous.....	4,505,737	1,703	2,646	394,574	11.42	1,889,635	294	6,427	83,541	22.62	2,616,102	1,409	1,857	311,033	8.41
Sub-Bituminous..	4,425,731	365	12,125	81,726	54.15	4,340,381	287	15,123	69,034	62.87	85,350	78	1,094	12,692	6.72
Total.....	8,931,468	2,068	4,319	476,300	18.75	6,230,016	581	10,723	152,575	40.83	2,701,452	1,487	1,817	323,725	8.34

OUTPUT AND NUMBER OF MINES PRODUCING

Kind of Coal	Under 1,000 Tons		1,000 to 5,000 Tons		5,000 to 10,000 Tons		10,000 to 50,000 Tons		50,000 to 100,000 Tons		100,000 to 150,000 Tons		150,000 to 200,000 Tons		200,000 to 300,000 Tons		Over 300,000 Tons		Total	
	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output
Bituminous.....	..	...	..	...	..	...	..	...	..	...	..	...	2	320,157	..	...	5	4,185,580	7	4,505,737
Sub-bituminous..	..	...	3	8,799	5	39,867	7	116,176	1	61,054	..	...	..	...	2	863,681	2	3,336,154	20	4,425,731
Total.....	..	...	3	8,799	5	39,867	7	116,176	1	61,054	..	...	2	320,157	2	863,681	7	7,521,734	27	8,931,468

DISPOSITION OF ALBERTA COAL

	SOLD TO				USED MAKING		FOR COLLIERY BOILERS, RAILROADS ETC.	TOTAL
	INDUSTRIAL CONSUMERS	DEALERS FOR RE-SALE	DOMESTIC CONSUMERS	EMPLOYEES	BRIQUETTES	CHAR		
JANUARY	366557	7335	42096	225	...	...	80	416293
FEBRUARY	356274	4810	31001	170	...	...	41	392296
MARCH	333509	2356	21939	187	...	...	72	358063
APRIL	328378	501	5264	55	...	...	4	334202
MAY	315432	86	1086	15	...	...	2	316621
JUNE	245099	75	1142	23	...	...	2	246341
JULY	248280	139	873	3	...	...	2	249297
AUGUST	290384	143	775	4	...	...	1	291307
SEPTEMBER	345327	3133	14206	156	...	...	42	362864
OCTOBER	354400	5021	27195	141	...	...	11	386768
NOVEMBER	386408	8208	40410	186	...	...	51	435263
DECEMBER	444999	6961	37492	187	...	...	75	489714
TOTAL	4015047	38768	223479	1352	...	...	383	4279029

PRODUCTION OF COAL PER EIGHT-HOUR MAN-SHIFT
For the Years 1952 to 1971 Inclusive

Year	Gross tons of coal mined	Total No. of eight-hour man-shifts	Average No. of tons of coal mined per eight-hour shift
1952.....	7,194,472	1,522,264	4.726
1953.....	5,917,423	1,141,531	5.184
1954.....	4,859,136	943,558	5.150
1955.....	4,456,578	783,239	5.690
1956.....	4,329,639	750,318	5.770
1957.....	3,155,354	535,346	5.894
1958.....	2,519,939	386,636	6.517
1959.....	2,549,517	377,870	6.747
1960.....	2,404,093	366,970	6.551
1961.....	2,027,826	285,142	7.112
1962.....	2,087,310	277,198	7.530
1963.....	2,289,943	254,671	8.992
1964.....	2,971,133	285,039	10.423
1965.....	3,413,928	288,871	11.820
1966.....	3,467,254	275,195	12.590
1967.....	3,601,559	263,969	13.643
1968.....	3,925,114	251,053	15.634
1969.....	4,426,060	274,684	16.113
1970.....	6,783,911	375,099	18.085
1971.....	8,931,468	476,300	18.751

AMOUNT OF MINE TIMBER USED DURING THE YEAR

BITUMINOUS COAL FIELD

Area	Timber lineal feet	Lumber B.M. feet	Lagging lineal feet	Ties lineal feet	Roof Bolts
Group 1:					
Cascade	118,987	68,016	595,278	12,816	9,124
Group 2:					
Crowsnest	313,410	938,420	430,000	300	43,226
Smoky River	287,715	318,371	228,124	...	192,872
Total	720,112	1,324,807	1,253,402	13,116	245,222

SUB-BITUMINOUS COAL FIELD

Group 4:					
Drumheller	60,090	...	...	3,254	...
Edmonton	56,848	3,000	...	...	...
Total	116,938	3,000	...	3,254	...

PARTICULARS OF LAMPS IN THE BITUMINOUS AND SUB-BITUMINOUS COAL FIELDS DURING THE YEARS 1970 and 1971.

BITUMINOUS COAL FIELD

	1970	1971
Portable Electric Lamps, Edison Cap Type	918	1,087
Flame Type	71	61
Total	989	1,148

SUB-BITUMINOUS COAL FIELD

Portable Electric Lamps, Edison Cap Type	196	155
Flame Type	9	7
Total	205	162

QUANTITY OF EXPLOSIVES USED IN POUNDS FOR BLASTING COAL

BITUMINOUS COAL FIELD

Area	Name of Explosives							Total
	Stumping Powder	Monobel	BL-100	CXL-ite	Airdox	AN/FO Amex	Forcite	
Group 1:								
Cascade.....	...	45,100	...	1,000	...	...	...	46,100
Group 2:								
Crowsnest...	...	854	...	...	...	...	...	854
Mountain Park	...	...	...	...	...	11,200	6,850	18,050
Smoky River.	...	856	...	...	...	...	...	856
Total.....	...	46,810	...	1,000	...	11,200	6,850	65,860

SUB-BITUMINOUS COAL FIELD

Group 4:								
Ardley.....	924	...	...	...	...	...	...	924
Brooks.....	...	...	850	...	...	...	...	850
Carbon.....	...	...	...	...	...	...	100	100
Drumheller..	...	...	...	...	8,000	...	...	8,000
Edmonton....	...	4,038	...	...	...	...	...	4,038
Pembina.....	...	...	...	...	...	...	42,000	42,000
Group 5:								
Camrose.....	...	...	...	...	...	...	60	60
Castor.....	1,450	...	...	...	...	...	...	1,450
Tofield.....	...	...	...	...	...	...	250	250
Total.....	2,374	4,038	850	...	8,000	...	42,410	57,672

ESTIMATED NUMBER OF SHOTS FIRED FOR BLASTING COAL

BITUMINOUS COAL FIELD

Area	Electric Detonators	Prima Cord	Airdox	Total
Group 1:				
Cascade.....	38,678	...	...	38,678
Group 2:				
Crowsnest.....	897	...	...	897
Mountain Park.	3	6,850	...	6,853
Smoky River...	196	...	...	196
Total.....	39,774	6,850	...	46,624

SUB-BITUMINOUS COAL FIELD

Group 4:				
Ardley.....	1,021	...	...	1,021
Brooks.....	1,622	...	...	1,622
Carbon.....	63	...	...	63
Drumheller....	...	...	8,000	8,000
Edmonton.....	4,040	...	...	4,040
Pembina.....	20,400	...	...	20,400
Group 5:				
Camrose.....	200	...	...	200
Castor.....	673	...	...	673
Tofield.....	68	...	...	68
Total.....	28,087	...	8,000	36,087

There were no missed-fire shots blasting coal.

NUMBER OF TONS OF COAL PRODUCED PER POUND OF EXPLOSIVES USED

BITUMINOUS COAL FIELD

Area	Number of tons of coal mined	Number of pounds of explosives used	Tons of coal mined per pound of explosives used
Group 1:			
Cascade.....	371,964	46,100	8.09
Group 2:			
Crowsnest.....	870,685	854	1019.54
Mountain Park....	1,031,382	18,050	57.14
Smoky River.....	2,231,706	856	2607.13
Total.....	4,505,737	65,860	68.41

SUB-BITUMINOUS COAL FIELD

Group 4:			
Arnley.....	20,105	924	21.76
Brooks.....	3,316	850	3.90
Carbon.....	2,926	100	29.26
Drumheller.....	67,595	8,000	8.45
Edmonton.....	35,719	4,038	8.85
Pembina.....	3,353,363	42,000	79.84
Taber.....	2,557	...	...
Group 5:			
Camrose.....	13,440	60	224.00
Castor.....	880,736	1,450	607.40
Sheerness.....	16,149	...	...
Tofield.....	9,380	250	37.52
Westlock.....	20,445	...	...
Total.....	4,425,731	57,672	76.74

QUANTITY OF EXPLOSIVES USED IN POUNDS FOR BLASTING ROCK IN COAL MINES

BITUMINOUS COAL FIELD

Area	Pellet	Monobel	Cilgel	CXL-ite	AN/FO Amex	Cardox	Forcite	Total
Group 1:								
Cascade.....	...	...	...	...	167,550	...	53.150	220,700
Group 2:								
Crowsnest....	...	...	...	8,825	451,250	...	73,450	533,525
Mountain Park	...	...	700	...	2,276,883		2,604	2,280,187
Smoky River..	...	796	...	...	464,239	...	20,300	485,335
Total.....	...	796	700	8,825	3,359,922	...	149,504	3,519,747

SUB-BITUMINOUS COAL FIELD

Group 4:								
Brooks.....	...	...	...	...	...	...	950	950
Pembina.....	...	...	...	...	...	...	500	500
Total.....	...	...	...	...	...	...	1,450	1,450

ESTIMATED NUMBER OF SHOTS FIRED FOR BLASTING ROCK
IN COAL MINES

BITUMINOUS COAL FIELD

Area	Electric Detonators	Prima Cord	
Group 1:			
Cascade.....	29,687	...	
Group 2:			
Crowsnest.....	8,521	180,400	
Mountain Park.....	230	900,000	
Smoky River.....	1,300	58,500	
Total.....	39,738	1,138,900 ft.	

SUB-BITUMINOUS COAL FIELD

Group 4:			
Brooks.....	8	...	
Pembina.....	125	...	
Total.....	133	...	

There were no missed-fire shots blasting rock.

ELECTRICITY

Area	Number of Mines using Electricity	Horsepower of Electrical Equipment in Use		Total Horsepower	Purchased Power
		Above Ground	Below Ground		
Ardley.....	1	4	...	4	16,000
Brooks.....	1	22	...	22	12,700
Camrose.....	1	10	...	10	5,000
Carbon.....	1	10	...	10	3,980
Cascade.....	1	4,976	948	5,924	9,768,792
Castor.....	3	4,123	...	4,123	4,614,958
Crowsnest.....	2	1,472	7,095	8,567	11,522,000
Drumheller.....	2	1,318	802	2,120	534,941
Edmonton.....	2	325	283	608	256,177
Mountain Park....	1	11,829	...	11,829	17,174,400
Pembina.....	3	12,292	...	12,292	11,091,060
Sheerness.....	1	1,040	...	1,040	400,000
Smoky River.....	2	11,675	12,791	24,466	24,100,000
Taber.....	1	78	...	78	5,940
Tofield.....	1	65	...	65	86.650
Westlock.....	2	29	...	29	42,000
Total.....	25	49,268	21,919	71,187	79,634,598

COAL-CUTTING MACHINERY

Area	No. of Machines Operated by:			Tons of Coal Mined by:	
	Electricity	Compressed Air		Electricity	Compressed Air
		Picks	Machines		
Cascade.....	2	8	...	181,825	60,608
Crowsnest.....	9	...	...	636,794	...
Drumheller.....	4	...	...	61,054	...
Edmonton.....	4	...	...	24,296	...
Smoky River.....	14	...	...	1,822,760	...
Total.....	33	8	...	2,726,729	60,608

ACCIDENTS DURING 1971, CLASSIFIED ACCORDING TO THE MINES IN WHICH THEY OCCURRED

Name of Operator	Area	Above Ground				Below Ground				Total Above and Below Ground
		Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Bituminous										
The Canmore Mines, Limited (2)	Cascade	..	2	2	4	..	2	10	12	16
Coleman Collieries Ltd. (1747)	Crowsnest	..	..	..	..	..	3	1	4	4
McIntyre Coal Mines Limited (1765)	Smoky River	..	1	2	3	1	11	6	18	21
Cardinal River Coals Ltd. (1768)	Mountain Park	..	2	..	2	..	..	..	..	2
Sub-bituminous										
Forestburg Collieries Ltd. (1578)	Castor	..	..	1	1	..	..	..	..	1
Star-Key Mines Limited (1626)	Edmonton	..	..	..	..	..	1	..	1	1
Total		..	5	5	10	1	17	17	35	45

ACCIDENTS AS THEY OCCURRED BY MONTHS DURING THE YEAR 1971

Months	Above Ground				Below Ground				Total Above and Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
January	..	1	1	2	..	1	1	2	4
February	..	..	..	..	..	3	..	3	3
March	..	1	..	1	..	2	4	6	7
April	..	1	2	3	..	1	2	3	6
May	..	..	..	..	..	2	3	5	5
June	..	..	..	..	1	3	1	5	5
July	..	..	..	..	..	1	..	1	1
August	..	..	..	..	..	..	4	4	4
September	..	..	1	1	..	1	1	2	3
October	..	1	..	1	..	2	..	2	3
November	..	..	1	1	..	..	1	1	2
December	..	1	..	1	..	1	..	1	2
Total	..	5	5	10	1	17	17	35	45

ACCIDENTS OCCURRING IN THE PROVINCE ABOVE AND BELOW GROUND DURING THE YEAR 1971

Causes	Above Ground				Below Ground				Total Above and Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Fall of roof or sides	..	1	..	1	..	11	6	17	18
Haulage	..	..	2	2	..	2	5	7	9
Machinery	..	2	2	4	1	4	6	11	15
Miscellaneous	..	..	1	1	..	..	..	..	1
Slipped and Fell	..	..	2	2	..	..	..	..	2
Total	..	3	7	10	1	17	17	35	45

ACCIDENTS OCCURRING IN THE PROVINCE ABOVE AND BELOW GROUND FOR THE YEAR 1971, CLASSIFIED ACCORDING TO THE AREA IN WHICH THEY OCCURRED

BITUMINOUS

Area	Above Ground				Below Ground				Total Above And Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Cascade	..	2	2	4	..	2	10	12	16
Crowsnest	..	..	..	..	..	3	1	4	4
Mountain Park	..	2	..	2	..	..	..	..	2
Smoky River	..	1	2	3	1	11	6	18	21
Total	..	5	4	9	1	16	17	34	43

SUB-BITUMINOUS

Edmonton	..	..	..	..	..	1	..	1	1
Castor	..	..	1	1	..	..	..	..	1
Total	..	..	1	1	..	1	..	1	2

FATAL ACCIDENTS IN MINES

John R. Heyland, Mechanics Helper, 24, on June 5th, 1971, at Mine No. 1765, operated by McIntyre Coal Mines Ltd., Grande Cache. While workman was assisting with the repair of a continuous miner, he sustained fatal head injuries when struck by the loading boom which was accidently dropped.

NUMBER OF TONS PRODUCED PER ACCIDENT

BITUMINOUS COAL FIELD

Area	Output	No. of Tons Produced Per Accident			
		Fatal	Serious	Slight	Total
Group 1:					
Cascade.....	371,964	...	92,991	30,997	23,248
Group 2:					
Crowsnest.....	870,685	...	290,228	870,685	217,671
Mountain Park.....	1,031,382	...	515,691	...	515,691
Smoky River.....	2,231,706	2,231,706	185,975	278,963	106,272
Total.....	4,505,737	4,505,737	214,559	214,559	104,785

SUB-BITUMINOUS COAL FIELD

Group 4:					
Ardley.....	20,105	...	...	...	...
Brooks.....	3,316	...	...	...	...
Carbon.....	2,926	...	...	...	...
Drumheller.....	67,595	...	...	...	...
Edmonton.....	35,719	...	35,719	...	35,719
Pembina.....	3,353,363	...	...	...	...
Taber.....	2,557	...	...	...	...
Group 5:					
Camrose.....	13,440	...	...	...	...
Castor.....	880,736	...	...	880,736	880,736
Sheerness.....	16,149	...	...	...	...
Tofield.....	9,380	...	...	...	...
Westlock.....	20,445	...	...	...	...
Total.....	4,425,731	...	4,425,731	4,425,731	2,212,866

SUMMARY

Bituminous.....	4,505,737	4,505,737	214,559	214,559	104,785
Sub-buminous.....	4,425,731	...	4,425,731	4,425,731	2,212,866
Total.....	8,931,468	8,931,468	405,976	405,976	198,477

CLASSIFICATION OF ACCIDENTS ACCORDING TO OUTPUT OF MINES WHICH PRODUCED DURING THE YEAR 1971

Accidents	Under 1,000 tons	1,000 to 5,000 tons	5,000 to 10,000 tons	10,000 to 50,000 tons	50,000 to 100,000 tons	100,000 to 150,000 tons	150,000 to 200,000 tons	200,000 to 300,000 tons	Over 300,000 tons	Total
Fatal	...	...	...	...	...	...	...	...	1	1
Serious	...	...	...	1	...	...	...	...	21	22
Slight	...	...	...	...	...	...	...	...	22	22
Total	...	...	...	1	...	...	...	...	44	45

TONS OF COAL PRODUCED PER ACCIDENT

Fatal	...	...	...	...	...	...	...	...	8,087,435	8,931,468
Serious	...	...	...	116,176	...	...	...	...	385,116	405,976
Slight	...	...	...	...	...	...	...	...	367,611	405,976
Total	...	...	...	116,176	...	...	...	...	183,805	198,477

ACCIDENTS

SUMMARY TABLE SHOWING ACCIDENTS OCCURRING IN THE MINES FROM 1952 to 1971 INCLUSIVE, REPORTABLE UNDER THE COAL MINES REGULATION ACT.

Year	Output	Accidents			Tons of Coal Mined Per Accident		
		Fatal	Serious	Slight	Fatal	Serious	Slight
1952.....	7,194,472	7	79	79	1,027,782	91,069	91,069
1953.....	5,917,423	10	59	60	591,742	100,295	98,623
1954.....	4,859,136	8	51	41	607,392	95,277	118,516
1955.....	4,456,578	3	54	52	1,485,526	82,529	85,703
1956.....	4,329,639	6	34	33	721,607	127,342	131,201
1957.....	3,155,354	2	25	15	1,577,677	126,214	210,357
1958.....	2,519,939	6	19	8	419,990	132,628	314,992
1959.....	2,549,517	1	18	10	2,549,517	141,639	254,952
1960.....	2,404,093	2	16	21	1,202,047	150,256	114,481
1961.....	2,027,826	1	9	11	2,027,826	225,314	184,348
1962.....	2,087,310	4	5	23	521,827	417,462	90,753
1963.....	2,289,943	1	3	11	2,289,943	763,314	208,177
1964.....	2,971,133	1	3	20	2,971,133	990,378	148,557
1965.....	3,413,928	6	3	13	568,988	1,137,976	262,610
1966.....	3,467,254	1	4	28	3,467,254	866,814	123,830
1967.....	3,601,559	...	4	17	...	900,390	211,856
1968.....	3,925,114	...	4	30	...	981,278	130,837
1969.....	4,426,060	3	5	17	1,475,353	885,212	260,356
1970.....	6,783,911	1	9	28	6,783,911	753,768	242,283
1971.....	8,931,468	1	22	22	8,931,468	405,976	405,976

COMPARISON OF PROTECTIVE CLOTHING USED FOR THE YEARS 1969, 1970 and 1971.

Clothing	1969	1970	1971
Hard Hats.....	994	1,751	1,850
Safety Shoes, pairs..	905	1,568	1,442
Goggles, pairs.....	226	577	908
Knee Pads, pairs.....	36	...	...

COMPARISON OF ACCIDENTS PER 1,000,000 TONS AND PER 1,000 MEN EMPLOYED, 1952 - 1971

Year	Tonnage	Total No. of men employed	Fatal Accidents			Serious Accidents			Slight Accidents			Total		
			No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed
1952	7,194,472	6,936	7	0.97	1.01	79	10.98	11.39	79	10.98	11.39	165	22.93	23.79
1953	5,917,423	5,760	10	1.69	1.74	59	9.97	10.24	60	10.14	10.42	129	21.80	22.40
1954	4,859,136	4,719	8	1.65	1.70	51	10.49	10.81	41	8.43	8.69	100	20.50	21.19
1955	4,456,578	3,801	3	0.67	0.79	54	12.12	14.21	52	11.67	13.68	109	24.46	28.68
1956	4.329,639	3,443	6	1.39	1.74	34	7.85	9.88	33	7.62	9.58	73	16.86	21.20
1957	3,155,354	2,795	2	0.63	0.72	25	7.92	8.94	15	4.75	5.37	42	13.31	15.03
1958	2,519,939	2,021	6	2,38	2.97	19	7.54	9.40	8	3.17	3.96	33	13.10	16.33
1959	2,549,517	1,720	1	0.39	0.58	18	7.07	10.46	10	3.92	5.82	29	11.37	16.86
1960	2,404,093	1,729	2	0.83	1.16	16	6.66	9.25	21	8.74	12.14	39	16.22	22.55
1961	2,027,826	1,323	1	0.49	0.76	9	4.44	6.80	11	5.42	8.31	21	10.36	15.87
1962	2,087,310	1,281	4	1.92	3.12	5	2.39	3.90	23	11.02	17.95	32	15.33	24.98
1963	2,289,943	1,151	1	0.44	0.87	3	1.31	2.61	11	4.80	9.56	15	6.55	13.03
1964	2,971,133	1,188	1	0.34	0.84	3	1.01	2.52	20	6.73	16.83	24	8.08	20.20
1965	3,413,928	1,181	6	1.76	5.08	3	0.88	2.54	13	3.81	11.01	22	6.44	18.63
1966	3,467,254	1,146	1	0.29	0.87	4	1.15	3.49	28	8.07	24.43	33	9.52	28.79
1967	3,601,559	1,162	...	...	...	4	1.11	3.44	17	4.72	14.63	21	5.83	18.07
1968	3,925,114	1,103	...	...	...	4	1.02	3.63	30	7.64	27.20	34	8.66	30.83
1969	4,426,060	1,209	3	0.68	2.48	5	1.13	4.13	17	3.84	14.06	25	5.65	20.68
1970	6,783,911	1,654	1	0.15	0.60	9	1.33	5.44	28	4.12	16.93	38	5.60	22.97
1971	8,931,468	2,068	1	0.11	0.48	22	2.46	10.64	22	2.46	10.64	45	5.04	21.76

BOARD OF EXAMINERS

The Board of Examiners during the year consisted of the following:

As representing:

The Mine Inspectorate: P. Melson, Director of Mines.
Managers: H. Crawford and E. J. Panchysyn.
Underground Miners: S. Liska.
Strip Mine Workers: K. D. Wiltse.
Secretary: M. B. Rasmussen.

Examinations for the following classes of certificates were held in Edmonton, Calgary and Grande Cache on May 4th, 5th and 6th, 1971.

Nine candidates presented themselves for examination for First Class (Underground) Certificates, and none were successful.

Thirteen candidates presented themselves for examination for Second Class (Underground) Certificates, and four were successful.

Fifteen candidates presented themselves for examination for Third Class (Underground) Certificates, and four were successful.

Nine candidates presented themselves for examination for First Class Mine Electricians' Certificates, and seven were successful.

Twelve candidates presented themselves for examination for Second Class Mine Electricians' Certificates, and five were successful.

Four candidates presented themselves for examination for Surveyors' (Underground) Certificates, and two were successful.

Seven candidates presented themselves for examination for Managers' (Strip Mine) Certificates, and all were unsuccessful.

Six candidates presented themselves for examination for Surveyors' (Strip Mine) Certificates, and two were successful.

Nineteen candidates presented themselves for examination for Foremen's (Strip Mine Certificates, and ten were successful.

Five candidates presented themselves for examination for Blasters' (Strip Mine) Certificates, and three were successful.

The following list gives the names of successful candidates.

UNDERGROUND MINES

SECOND CLASS

Name	Address	Cert. No.	Date of Certificate
Coates, G. W.	Grande Cache	13	4- 6-71
Steward, J.	Grande Cache	14	9- 6-71
McGrath, A.	Canmore	15	14- 6-71
Alton, S.	Grande Cache	16	7- 7-71

THIRD CLASS

Charlton, K.	Grande Cache	51	7- 6-71
Hopson, G.W.	Grande Cache	52	14- 6-71
Kirkeby, J.	Grande Cache	53	8- 7-71
Buckley, W. G.	Grande Cache	54	2-11-71

SURVEYOR

	Allison, E. L.	Grande Cache	11	8- 6-71
	Riva, D. A.	Canmore	12	22- 6-71

FIRST CLASS MINE ELECTRICIAN

	Parke, R. L.	Hinton	28	8- 6-71
	Tuckwood, R.	Grande Cache	29	9- 6-71
	Riegger, B.	Wabamun	30	10- 6-71
	Jefferson, M. E.	Seba Beach	31	18- 6-71
	Mills, B.	Grande Cache	32	22- 6-71
**	Brookes, A. R.	Canmore		
**	Pike, A.	Grande Cache		

SECOND CLASS MINE ELECTRICIAN

	Reuteman, P. A.	Hanna	11	7- 6-71
	Anderson, L. F.	Wabamun	12	22- 6-71
	Rowland, G. Jr.	Halkirk	13	6- 8-71
	Funfer, R. J.	Blairmore	14	17-11-71
**	Lawson, B.	Grande Cache		

STRIP MINES

SURVEYOR

	Aiello, J. P.	Hinton	5	7- 6-71
	Astleford, L. G.	Duffield	6	10- 6-71

FOREMEN

	McKay, J. S.	Forestburg	62	4- 6-71
	Hauser, J. D.	Gainford	63	4- 6-71
	Hemmerling, D.	Hinton	64	7- 6-71
	Mickel, V. S.	Fallis	65	7- 6-71
	Scheler, R. G.	Forestburg	66	8- 6-71
	Lant, G.	Coleman	67	9- 6-71
	Weston, W. J.	Robb	68	10- 6-71
	Wiggins, L. D.	Wabamun	69	10- 6-71
	Welch, G. J.	Seba Beach	70	11- 6-71
	Gunther, G. O.	Fallis	71	16- 6-71

BLASTER

	Wheat, K. P.	Robb	14	7- 6-71
	Hughes, M.	Hinton	15	7- 6-71
	Kolbe, L. D.	Robb	16	8- 6-71

** Certificate not issued as at December 31st, 1971.

In addition to the foregoing, the following certificate was issued to a successful candidate in the examinations held in 1970.

FIRST CLASS MINE ELECTRICIAN

Manning, J. A.	Grande Cache	33	29-11-71

The following substitute Manager's (Strip Mine) Certificate was issued:

Donkin, F. I.	Bruce	29	25-10-71

The following substitute Foreman's (Strip Mine) Certificate was issued:

Fox, L. T.	Forestburg	72	3- 8-71

EXAMINATIONS UNDER THE QUARRIES REGULATION ACT

Written examinations for certificates under the above act were held on May 4th, 1971, at Edmonton and Calgary.

Four candidates presented themselves for examination for Managers' Certificates, and two were successful.

Sixteen candidates presented themselves for examination for Foremen's Certificates, and five were successful.

The following list gives the names of successful candidates.

QUARRIES

MANAGER

Name	Address	Cert. No.	Date of Certificate
Pfannmuller, G. A.	Cadomin	39	19- 5-71
Koelbl, J. M.	Sherwood Park	40	19- 5-71

FOREMEN

Hoffman, R. A.	Exshaw	72	19- 5-71
Smith, T. R.	Ft. McMurray	73	19- 5-71
Stinson, W. J.	Ft. McMurray	74	19- 5-71
Warren, D. C.	Ft. McMurray	75	19- 5-71
Febrey, J. D.	Ft. McMurray	76	19- 5-71

The following list gives the names of successful candidates, by oral examination, for Quarry Blasters' certificates.

BLASTER

Johnston, W. F.	Ft. McMurray	81	1- 4-71
Harding, R. W.	Ft. McMurray	82	1- 4-71

LIST OF MINES PRODUCING DURING

The Year 1971

Character of Coal:- Bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
	Cascade Area				
2	The Canmore Mines Limited.....	Canmore.....	Parts 24-10-5	Canmore Smokeless Coal, Canmore Briquettes.....	1891
	Crowsnest Area				
1695	Coleman Collieries Ltd.....	Coleman.....	12- 7- 6-5	Coleman Coal.....	1949
1747	Coleman Collieries Ltd.....	Coleman.....	16-19- 9- 4-5	Vicary Creek Coal.....	1957
1764	Coleman Collieries Ltd.....	Coleman.....	5&6-10- 4-5	Vicary Creek Coal.....	1966
	Mountain Park Area				
1768	Cardinal River Coals Ltd.....	Hinton.....	15,16,22-47-24-5	Cardinal.....	1969
	Smoky River Area				
1765	McIntyre Coal Mines Limited....	Grande Cache.....	57- 8-6 & 58- 9	.....	1967
1771	McIntyre Coal Mines Limited....	Grande Cache.....	16-58- 8-6	McEvoy.....	1971

LIST OF MINES PRODUCING DURING

The Year 1971

Character of Coal:- Sub-bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
	Ardley Area				
809	Sisson's Mine.....	Alix.....	S.W. $\frac{1}{4}$ of 2-39-23-4	Sisson's Coal.....	1919
	Brooks Area				
1404	Manitoba & Saskatchewan Coal Company Limited.....	Bow City.....	Pts. of 15-17-17-4	Birnwel Coal.....	1932
	Camrose Area				
724	Burnstad Coal Ltd.....	Round Hill.....	N. $\frac{1}{2}$ of 6-14-48-18-4	Burnstad's Coal.....	1917
	Carbon Area				
194	New Ghost Pine Coal Co. Ltd....	Three Hills.....	4&9-31-22-4	New Ghost Pine Coal.....	1909
	Castor Area				
1046	Alberta Coal Ltd.....	Halkirk.....	15&16-20-40-15-4	Cordel Coal, Vesta Coal, Sterling, Victory Coal, Blue Flame Coal.....	1922
1578	Forestburg Collieries Ltd.....	Forestburg.....	N.W. $\frac{1}{4}$ of 6-41-15-4	Diplomat Coal, Ambassador.....	1941
1614	Stettler Coal Co. Ltd.....	Halkirk.....	11-25-40-16-4	All-Fire Coal.....	1943
	Drumheller Area				
1666	Subway Coal Company.....	Rosedale.....	15-16-28-19-4	Subway Coal.....	1947
1742	Century Coals Limited.....	East Coulee.....	14- 6-27-18-4	Atlas Coal, Commander Coal, New Wild Fire Coal, New Murray Coal, Western Gem, Hy-Grade, Purity Hard.....	1956

LIST OF MINES PRODUCING DURING

The Year 1971

Character of Coal:- Sub-bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
	Edmonton Area				
1582	Egg Lake Coal Co. Ltd.....	Morinville.....	W. ½ of 36-56-26-4	Egg Lake Coal.....	1941
1626	Star-Key Mines Limited.....	St. Albert.....	16,10&11-35-54-25-4	Star-Key Coal.....	1945
	Pembina Area				
1670	Warburg Coal Co. Ltd.....	Warburg.....	12-13-49- 3-5	Pinter Coal.....	1948
1739	Charles Ostertag.....	Evansburg.....	S.W.¼ of 10-54- 7-5	Pembina Peerless Coal.....	1954
1757	Alberta Coal Ltd.....	Wabamun.....	Pts. of 14&15-53- 4-5	Whitewood.....	1962
1769	Calgary Power Ltd.....	Seba Beach.....	3-29-52- 4-5	Highvale.....	1969
	Sheerness Area				
443	Alberta Coal Ltd.....	Sheerness.....	S.E.¼ of 13-29-13-4	Roselyn, Berry Creek, Volcano.....	1915
	Taber Area				
1766	Henry Miller (Taber Ajax).....	Taber.....	4,10&11-10-17-4	Taber Ajax.....	1968
	Tofield Area				
215	Dodds Coal Mining Co. Ltd.....	Ryley.....	S.½ of 14-49-18-4	Dodds Coal.....	1909
	Westlock Area				
1523	Picardville Coal Co. (1960) Ltd.	Picardville.....	16-35-58-27-4	Picardville Coal.....	1960
1562	North Point Coal Co. Ltd.....	Thorhild.....	1-11-60-21-4	North Point Coal.....	1939

LIST OF QUARRIES PRODUCING DURING

The Year 1971

QUARRY NO.	OPERATOR	QUARRY OFFICE ADDRESS	PRODUCT	QUARRY LOCATION L.S. S. T. R. M.		DATE OPENING
	Cascade Area					
Q 2	Canada Cement Lafarge Ltd.	Exshaw	Limestone & Shale	Pts. of	27&28-24- 9-5	1906
Q 3	Loders, Lime Division	Exshaw	no production	Pts.	25&36-24- 9-5	1906
Q 27	Canada Cement Lafarge Ltd.	Exshaw	Shale		7-25- 8-5	1956
Q 28	Rundle Rock Building Stone Co. Ltd.	Calgary	Building Stone	Pts. Secs.	17,18&19-25-10-5	1962
Q 47	Loders, Lime Division	Exshaw	Limestone	Pts. Sec.	24-24-10-5	1960
Q 48	Canmore Rundle Rock Ltd.	Canmore	Building Stone		11&12-34-24-10-5	1960
Q 58	Thunderstone Quarries Ltd.	Canmore	Building Stone	Pts. N.E. $\frac{1}{4}$	12- 7-24- 9-5	1961
	Castor Area					
Q 37	Dresser Industries Inc.	Rosalind	Bentonite		5&16-31-42-17-4	1958
	Crowsnest Area					
Q 8	Summit Lime Works Ltd.	Crowsnest, B.C.	Limestone	Pts. of	7- 8- 5-5	1920
	Edmonton Area					
Q 5	Northwest Brick and Tile	Edmonton	Clay	N.E. $\frac{1}{4}$ of	21-53-25-4	1911
Q 22	Inland Cement Industries Limited	Edmonton	Clay	Pts. of	15&22-53-25-4	1955
Q 72	Department of Highways and Transport	Edmonton	Fill-Gravel		8-53-23-4	1970
	Mountain Park Area					
Q 21	Inland Cement Industries Limited	Cadomin	Limestone		13-30-46-23-5	1955

LIST OF QUARRIES PRODUCING DURING

The Year 1971

QUARRY NO.	OPERATOR	QUARRY OFFICE ADDRESS	PRODUCT	QUARRY LOCATION L.S. S. T. R. M.	DATE OF OPENING
	Pakowki Area				
Q 34	Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	Clay.....	5,6,11&12-20- 8- 3-4	1957
Q 39	Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	Clay.....	S.W. $\frac{1}{4}$ 20- 8- 4-4	1959
Q 45	Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	Clay.....	10&15- 9- 8- 4-4	1959
	No Area				
Q 24	Consolidated Concrete Industries Ltd.....	Calgary.....	Shale.....	3,4&5 -32-21-29-4	1956
	No Area				
Q 36	Northwest Brick and Tile.....	Edmonton.....	Clay.....	N.E. $\frac{1}{4}$ of 9 5&6-16-66-22-4	1958
Q 41	Syncrude Canada Ltd.....	Edmonton.....	Oil-Sands.....	15-34-92-10-4	1959
Q 65	Great Canadian Oil Sands Limited.....	Edmonton.....	Oil-Sands.....	23-92-10-4	1964

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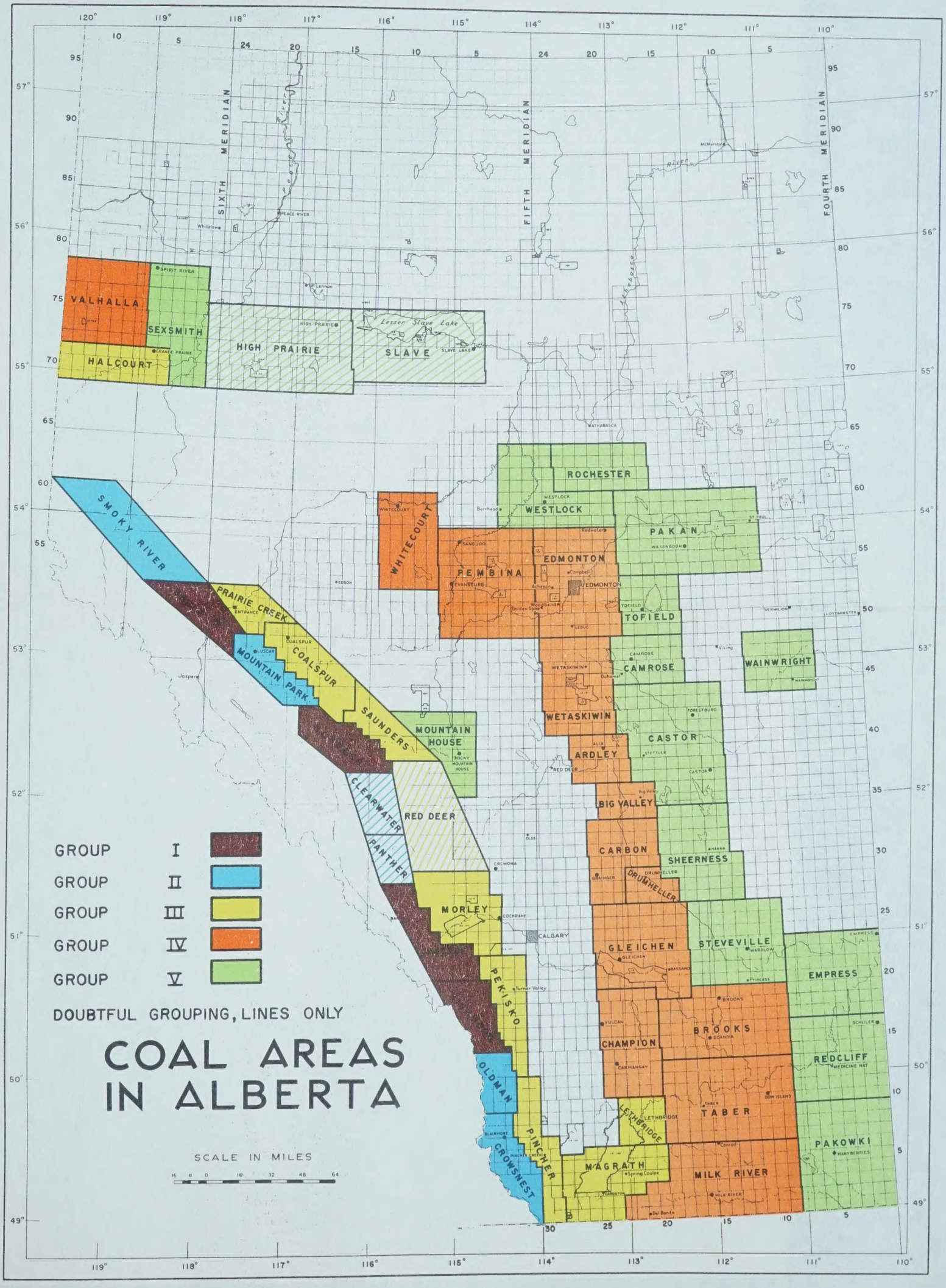

COAL AREAS IN ALBERTA